

Claims

1. A method for the creation of a visualisation of data through what is known as "tree-mapping" displayed on a monitor with the aid of a computer, where tree-mapping is a known technique in which a structured tree is used to organise data, where the data are visually presented through a map consisting of geometrical figures such as, for example, a number of rectangles and squares, which geometric figures correspond to offspring of the root of the tree and which together wholly or partially fill an outer frame and where each element is a node the area of which, i.e. the size of each rectangle or square, corresponds to the value of one parameter in the data that are stored in the nodes of the tree and where a second parameter is represented by, for example, the colour of each rectangle or square, and where one or several of the said elements can be subdivided into smaller elements, corresponding to a branching of the tree, where the smaller elements represent a lower level and where the smaller elements together wholly or partially fill the area of the level that lies immediately above them and where the said smaller elements in an equivalent manner can be further subdivided into further smaller elements, corresponding to a further branching, which further smaller elements represent a further lower level, etc., characterised in that when a change takes place in the value of one parameter at one node, the value of the node's parent in the direction towards higher levels is recalculated, starting at the node in which the change has taken place, until the value of the said areas along the relevant calculation pathway and the value of the said geometric figures have been calculated, in that the size of the geometric elements at the highest level have been given

correct relative proportions with respect to the said changed value such that the said frame is filled fully or partially and in that all elements have been given correct relative proportions with respect to the changed area of the level
5 that lies immediately above, whereby the speed of calculation is increased such that changes can be made visible dynamically.

2. The method according to claim 1,
10 characterised in that when a change in the value of a parameter takes place in one node, the node and its siblings, i.e. nodes that lie at the same level, are sorted, according to their sizes, after which the values of the parameters are recalculated for the ancestors of the node in
15 the direction towards higher levels, where the siblings are sorted according to their sizes at each level and in that a map representing the values of the nodes is subsequently laid out at the highest level of the tree and downwards.

20 3. The method according to claim 1 or 2, characterised in that the said "change" is intended to denote the change in value of a node, or its removal or its addition.

25 4. The method according to claim 1, 2 or 3, characterised in that a recalculation is caused to take place for changes that exceed a certain amount.

30 5. The method according to claim 1, 2, 3 or 4, characterised in that one or several parameters, such as colour, in addition to the said areas, are caused to be updated after the distribution of area among the elements present has been calculated.

6. An arrangement for the creation of a visualisation of data through what is known as "tree-mapping" displayed on a monitor with the aid of a computer where tree-mapping is a known technique in which a structured tree is used to organise data, where the data are visually presented through a map consisting of geometrical figures such as, for example, a number of rectangles and squares, which geometric figures correspond to offspring of the root of the tree and which together wholly or partially fill an outer frame and where each element is a node, the area of which, i.e. the size of each rectangle or square, corresponds to the value of one parameter in the data that are stored in the nodes of the tree and where a second parameter is represented by, for example, the colour of each rectangle or square, and where one or several of the said elements can be subdivided into smaller elements, corresponding to a branching of the tree, where the smaller elements represent a lower level and where the smaller elements together wholly or partially fill the area of the level that lies immediately above them and where the said smaller elements in an equivalent manner can be further subdivided into further smaller elements, corresponding to a further branching, which further smaller elements represent a further lower level, etc., and in which a computer connected to a database is arranged to control a monitor such that a map of the said elements is formed, characterised in a computer is arranged to recalculate, when a change takes place in the value of one parameter at one node, the value of the node's parent in the direction towards higher levels, starting at the node in which the change has taken place, until the value of the said areas along the relevant calculation pathway and the value of the said geometric figures have been calculated, in that the

computer is arranged to give the correct proportions with respect to the said changed value to the sizes of the geometric elements at the highest level such that the said frame is filled fully or partially filled, and in that the
5 computer is arranged to give the correct relative proportions with respect to the changed area of the level that lies immediately above to all elements, whereby the speed of calculation is increased such that changes can be made visible dynamically.

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7. The arrangement according to claim 6, characterised in that the computer is arranged to sort the node and its siblings, i.e. nodes that lie at the same level, according to their sizes when a change in the
15 value of a parameter takes place in one node, that the computer is arranged to recalculate subsequently the values of the parameters for the ancestors of the node in the direction towards higher levels, and at each level to sort the siblings according to their sizes and in that the
20 computer is subsequently arranged to lay out a map representing the values of the nodes at the highest level of the tree and downwards.

8. The arrangement according to claim 6 or 7,
25 characterised in that the said "change" is intended to denote the change in value of a node, or its removal or its addition.

9. The arrangement according to claim 6, 7 or 8,
30 characterised in that the computer is arranged to carry out a calculation when changes that exceed a certain amount have been recorded.

10. The arrangement according to claim 6, 7, 8 or 9, characterised in that the computer is arranged to cause one or several parameters, such as colour, in addition to the said areas to be updated after the
5 distribution of area among the elements present has been calculated.